SECTION 2I. LADLE METALLURGY (AND OTHER REFINING PROCESSES)

TECHNICAL INFORMATION HELP LINE: (800) 357-7075

✓

IS LADLE METALLURGY (OTHER THAN VACUUM DEGASSING) PERFORMED AT THIS SITE?

G YES (CONTINUE)

G NO (SKIP TO SECTION 2J)

THROUGHOUT THIS SECTION YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR **ALL** OPERABLE UNITS AND WATER SYSTEMS RELATED TO LADLE METALLURGY AND OTHER REFINING PROCESSES (OTHER THAN VACUUM DEGASSING) WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

STOP

HOW MANY **OPERABLE LADLE METALLURGY PROCESSES** WERE ON SITE DURING **1997**? IF THERE ARE MULTIPLE SMALL LADLE METALLURGY STATIONS OF THE SAME TYPE (SEE QUESTION 2I-1.A. FOR TYPES) IN ONE SHOP, THESE STATIONS MAY BE COUNTED AS ONE PROCESS. _____

COMPLETE A COPY OF QUESTION 2I-1 FOR **EACH** OPERABLE LADLE METALLURGY PROCESS. NUMBER EACH COPY OF QUESTION 2I-1 IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2I-1 IS TWO PAGES LONG.

G CBI **2I-1.**a. Indicate which type of ladle metallurgy operation is performed at this process.

- **G** Argon Bubbling
- **G** Argon-Oxygen Decarburization (AOD)
- **G** Electroslag Remelting (ESR)
- **G** Lance Injection
- **G** Other *(specify)*: _____

G CBI b. Provide the designation by which your site refers to this ladle metallurgy process.

_____

G CBI c. Provide the designation of the BOF/EAF shop which is associated with this ladle metallurgy process. The designation should correspond with a response provided in Question 2F-2 (BOF) or 2G-2 (EAF).

_____

G CBI d. What year were ladle metallurgy operations first performed at this process? _____

G CBI e. What is the total rated capacity of the ladle metallurgy process in tons of steel refined per year?

_____ tons/year (to three significant figures, e.g., 695,000 tons/year)

G CBI f. What is the annual number of heats used to determine the total rated capacity?

_____ heats/year

COMPLETE A COPY OF QUESTION 2I-1 FOR EACH OPERABLE LADLE METALLURGY PROCESS.

G CBI **2I-1.**g. **(cont.)** Indicate (✓) **ALL** function(s) of this ladle metallurgy process.

- **G** Alloy additions
- **G** Temperature control
- **G** Deoxidation (O_2)
- **G** Hydrogen removal (H_2)
- **G** Decarburization
- **G** Desulfurization
- **G** Microcleanliness
- **G** Inclusion morphology
- **G** Other *(specify)*: _____

G CBI h. Provide annual production data for this ladle metallurgy process for each of the five calendar years 1993 through 1997.

Year	Steel Refined (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI **2I-2.** Check (✓) **ALL** alloying elements which were charged to any ladle metallurgy process in **1997**. If you have a previously prepared list of raw materials and alloying elements, attach it to the survey, write your site ID (shown on the cover page of Part A) and this question number on the upper right corner of the list, check (✓) the box to the right, and SKIP to Question 2I-3. **G**

G Aluminum	**G** Other *(specify)*: _____
G Boron	**G** Other *(specify)*: _____
G Chromium	**G** Other *(specify)*: _____
G Cobalt	**G** Other *(specify)*: _____
G Copper	**G** Other *(specify)*: _____
G Lead	**G** Other *(specify)*: _____
G Magnesium	**G** Other *(specify)*: _____
G Manganese	**G** Other *(specify)*: _____
G Molybdenum	**G** Other *(specify)*: _____
G Nickel	**G** Other *(specify)*: _____
G Niobium (Columbium)	**G** Other *(specify)*: _____
G Selenium	**G** Other *(specify)*: _____
G Silicon	**G** Other *(specify)*: _____
G Sulfur	**G** Other *(specify)*: _____
G Tantalum	**G** Other *(specify)*: _____
G Titanium	**G** Other *(specify)*: _____
G Tungsten	**G** Other *(specify)*: _____
G Vanadium	**G** Other *(specify)*: _____
G Zirconium	**G** Other *(specify)*: _____

HOW MANY **OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS** WERE ON SITE AT A LADLE METALLURGY PROCESS DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT. _____

COMPLETE A COPY OF QUESTION 2I-3 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2I-3 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2I-3 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH ANY LADLE METALLURGY PROCESSES, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2I-4.** **G**

G CBI **2I-3.**a. Provide the designation(s) of the ladle metallurgy process(es) and all other operations associated with this WAPC system. Process designation(s) should correspond with response(s) to Question 2I-1.b. If information for this WAPC system is already provided elsewhere in this survey, answer Question 2I-3.a., check the box to the right, and SKIP to Question 2I-4. **G**

_____

G CBI b. This WAPC system controls emissions from which of the following processes? Check (✓) **ALL** that apply.

- **G** Raw material handling, preparation, and storage
- **G** Building evacuation
- **G** Other *(specify)*: _____

G CBI c. Indicate the devices in this WAPC system. Check (✓) **ALL** that apply.

- **G** Venturi scrubber
- **G** Spray chamber
- **G** Evaporation chamber
- **G** Separator
- **G** Demister
- **G** Packed tower
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI d. Provide the gas or air flow through the system in dry standard cubic feet per minute (dscfm).

_____ dscfm

G CBI e. Is the water recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2I-3.l.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2I-3.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes - Treatment shared with other processes

Specify the processes: _____

COMPLETE A COPY OF QUESTION 2I-3 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2I-3.**h. **(cont.)** Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI i. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI j. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI k. Provide the average recirculation rate of water through the system.

_____ gpm _____ hours per day _____ days per year

G CBI l. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI m. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

COMPLETE A COPY OF QUESTION 2I-3 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2I-3.**n. **(cont.)** Provide the average discharge rate from the system (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI o. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2I-4.**a. Are any dry air pollution control (DAPC) systems associated with any ladle metallurgy processes on site?

G Yes (continue)

G No (SKIP to Question 2I-5)

G CBI b. Indicate the process(es) associated with DAPC systems and the ladle metallurgy process designation associated with each process (designation(s) should correspond with response(s) to Question 2I-1.b). Check (✓) **ALL** that apply. For each process checked, indicate the type of DAPC system.

Process	Ladle Metallurgy Process Designation	Type of DAPC System
G Raw material handling, preparation, and storage associated with ladle metallurgy		**G** Fabric filter (i.e., baghouse) **G** Electrostatic precipitator **G** Other *(specify)*:
G Ladle metallurgy emissions		**G** Fabric filter (i.e., baghouse) **G** Electrostatic precipitator **G** Other *(specify)*:
G Building evacuation associated with ladle metallurgy		**G** Fabric filter (i.e., baghouse) **G** Electrostatic precipitator **G** Other *(specify)*:
G Other *(specify)*:		**G** Fabric filter (i.e., baghouse) **G** Electrostatic precipitator **G** Other *(specify)*:
G Other *(specify)*:		**G** Fabric filter (i.e., baghouse) **G** Electrostatic precipitator **G** Other *(specify)*:
G Other *(specify)*:		**G** Fabric filter (i.e., baghouse) **G** Electrostatic precipitator **G** Other *(specify)*:

EXCLUDING WAPC SYSTEMS AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM LADLE METALLURGY OPERATIONS ARE PRESENT? _____

COMPLETE A COPY OF QUESTION 2I-5 FOR **EACH** LADLE METALLURGY WASTEWATER SOURCE. NUMBER EACH COPY OF QUESTION 2I-5 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2I-5 IS TWO PAGES LONG.

IF YOUR SITE HAS NO LADLE METALLURGY SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM OR STORM WATER, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2I-6.** **G**

2I-5. Provide information for the ladle metallurgy process and related on-site wastewater generating sources.

G CBI a. Indicate the source of process wastewater **NOT** associated with wet air pollution control or storm water. If there is more than one source at this site, complete a copy of this question for **EACH** ladle metallurgy process source.

- **G** Raw material handling, preparation, and storage
- **G** Slag quenching
- **G** Equipment cleaning and washdown water
- **G** Other *(specify)*: _____

G CBI b. Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site ID written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and the product code, if known.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

G CBI c. Provide the wastewater flow rate associated with the source checked above.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2I-5 FOR EACH LADLE METALLURGY SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM OR STORM WATER.

G CBI **2I-5.**d. **(cont.)**

Indicate the destination of this wastewater stream. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2I-6.** Provide information on any major process modifications and/or shut downs which have occurred for the ladle metallurgy processes since 1993. Provide ladle metallurgy process designations in the description. Designation(s) should correspond with response(s) to Question 2I-1.b.

Shut Down or Modification?	Date	Description

G CBI **2I-7.** Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the ladle metallurgy processes. Provide ladle metallurgy process designations in the description. Designation(s) should correspond with response(s) to Question 2I-1.b.

Shut Down or Modification?	Anticipated Date	Description

G CBI **2I-8.** Indicate **ALL** pollution prevention (waste reduction) or management practices implemented by your site for the ladle metallurgy facility and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide ladle metallurgy process designations in the description. Designation(s) should correspond with response(s) to Question 2I-1.b.

Management Practices	Description of Practice
G Management of spillage and losses from raw material handling operations associated with ladle metallurgy	
G Management of runoff from raw material or product storage piles associated with ladle metallurgy	
G Management of fugitive discharges of process wastewaters and materials to ladle metallurgy facility noncontact cooling water (NCCW) systems	
G Surveillance and corrective action programs for oil discharges from large NCCW flows associated with ladle metallurgy	
G Collection and treatment and/or disposal of storm water from any areas associated with ladle metallurgy (specify manufacturing processes or other collection areas in the description)	
G Collection and treatment and/or disposal of landfill leachate from any landfills associated with ladle metallurgy wastes	
G Collection and treatment and/or disposal of contaminated ground water associated with ladle metallurgy wastes	
G Other *(specify)*:	
G Other *(specify)*:	

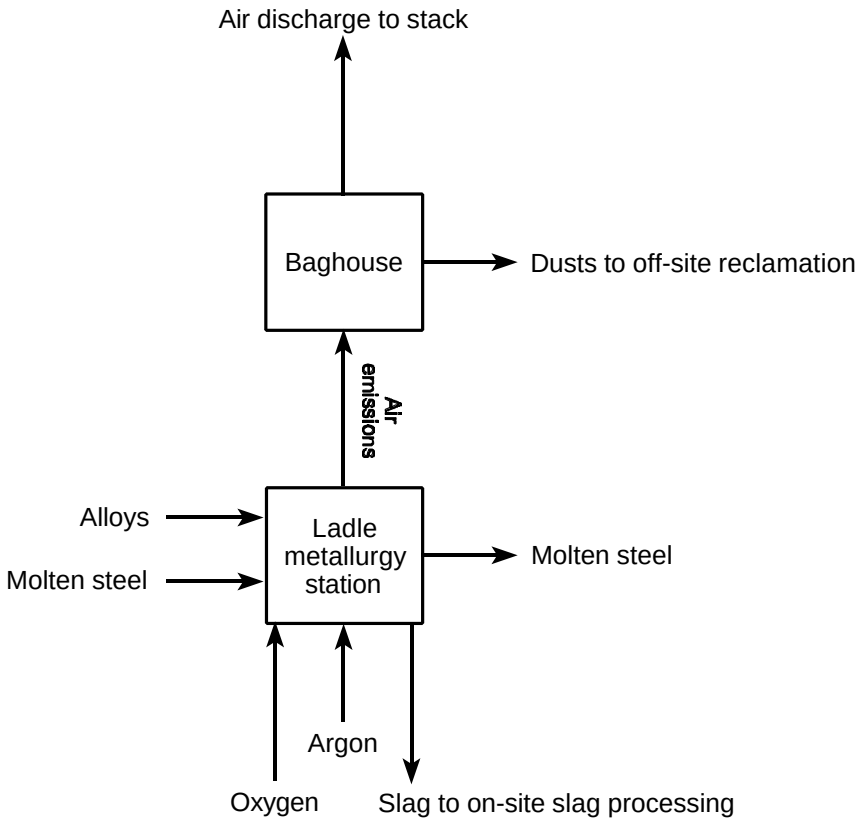
G CBI **2I-9.** Attach a process flow diagram (PFD) that shows ladle metallurgy processes and the water use associated with the processes. You are **NOT** required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are NOT required on the diagrams.**

Provide the PFD number assigned to the ladle metallurgy PFD. **If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness.** If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Ladle metallurgy PFD-_____

Process Flow Diagram Checklist

Be sure...	✓
All ladle metallurgy and other refining operations are included. Include those operations which do not generate process wastewater.	**G**
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	**G**
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	**G**
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	**G**
Significant losses of water (e.g., evaporation) are shown.	**G**
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	**G**
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	**G**
The PFD number and your site ID number are written on the diagram.	**G**
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	**G**



Ladle Metallurgy
Example Process Flow Diagram

COMMENTS FOR SECTION 2I: LADLE METALLURGY (AND OTHER REFINING PROCESSES)

Cross reference your comments by question number and indicate the confidential status of your comment by checking (✓) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CBI	Comment
	G	
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	G	

SECTION 2J. CASTING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075

✓

IS CASTING PERFORMED AT THIS SITE?

G YES (CONTINUE)

G NO (SKIP TO SECTION 2K)

THROUGHOUT THIS SECTION YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR **ALL** OPERABLE UNITS AND WATER SYSTEMS RELATED TO CASTING WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

G CBI 2J-1.a. Is any type of casting other than continuous casting (e.g., ingot casting, pressure casting) performed at this site?

G Yes (continue)

G No (Skip to Question 2J-2)

G CBI b. Provide a list of the operable casting processes, other than continuous casting, which were on site during **1997**. For each process, indicate the type of casting process and the **1997** annual production rate. Use the site designation for each casting process on the list.

Non-Continuous Casting Process Designation	Type of Process	1997 Production Rate (tons/year)

G CBI c. Is continuous casting performed at this site?

G Yes (continue)

G No (Skip to Question 2J-3)

HOW MANY **OPERABLE CONTINUOUS CASTERS** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF QUESTION 2J-2 FOR **EACH** OPERABLE CONTINUOUS CASTER. NUMBER EACH COPY OF QUESTION 2J-2 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2J-2 IS THREE PAGES LONG.

G CBI **2J-2.**a. Provide the designation by which your site refers to this continuous caster (e.g., No. 1 caster).

_____

G CBI b. What was the first year of operation for this continuous caster? _____

G CBI c. Provide the number of strands on this continuous caster. _____

G CBI d. What is the total rated capacity of this continuous caster in tons per year of casted product?

_____ tons/year (to three significant figures, e.g., 965,000 tons/year)

G CBI e. What is the annual number of operating hours used to determine the total rated capacity?

_____ hours/year

G CBI f. Provide annual production data for this continuous caster for each of the five calendar years 1993 through 1997.

Year	Steel Cast (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI g. Indicate the type of product cast by this continuous caster. Provide the dimension ranges of each shape this continuous caster is capable of casting.

Type	Range of Dimensions (specify units)
G Slab	
G Slim slab	
G Thin slab	
G Billets, round	
G Billets, rectangular	
G Blooms	
G Other *(specify)*:	

COMPLETE A COPY OF QUESTION 2J-2 FOR EACH OPERABLE CONTINUOUS CASTER.

G CBI **2J-2.**h. **(cont.)** Is the contact spray water recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2J-2.o.)

G CBI i. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2J-2.m.)

G CBI j. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes -Treatment shared with other processes

Specify the processes: _____

G CBI k. Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI l. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI m. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI n. Provide the average recirculation rate of water through the system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI o. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide makeup flow rate).

_____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2J-2 FOR EACH OPERABLE CONTINUOUS CASTER.

G CBI **2J-2.**p. **(cont.)** Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total 100 %

G CBI q. Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate). Check (✓) **ALL** that apply.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI r. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

STOP

HOW MANY **OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS** WERE ON SITE AT THE CASTERS DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT.

_____

COMPLETE A COPY OF QUESTION 2J-3 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2J-3 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2J-3 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH ANY CASTERS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2J-4.** **G**

G CBI **2J-3.**a. Provide the designation(s) of the caster(s) and all other operations associated with this WAPC system. Caster designation(s) should correspond with response(s) to Questions 2J-1.b. or 2J-2.a. If information for this WAPC system is already provided elsewhere in this survey, answer Question 2J-3.a., check the box to the right, and SKIP to Question 2J-4. **G**

_____

G CBI b. This WAPC system controls emissions from which of the following processes? Check (✓) **ALL** that apply.

- **G** Raw material handling, preparation, and storage
- **G** Building evacuation
- **G** Other *(specify)*: _____

G CBI c. Indicate the devices in this WAPC system. Check (✓) **ALL** that apply.

- **G** Venturi scrubber
- **G** Spray chamber
- **G** Evaporator chamber
- **G** Separator
- **G** Demister
- **G** Packed tower
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI d. Provide the gas or air flow through the device in dry standard cubic feet per minute (dscfm).

_____ dscfm

G CBI e. Is the water recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2J-3.l.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2J-3.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes - Treatment shared with other processes

Specify the processes: _____

COMPLETE A COPY OF QUESTION 2J-3 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2J-3.**h. **(cont.)** Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI i. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI j. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI k. Provide the average recirculation rate of water through the WAPC system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI l. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI m. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total 100 %

COMPLETE A COPY OF QUESTION 2J-3 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2J.3.**n. **(cont.)** Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI o. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2J-4.**a. Are any dry air pollution control (DAPC) systems associated with any casters?

G Yes (continue)
G No (SKIP to Question 2J-5)

G CBI b. Indicate the process associated with DAPC systems at any casters. Check (✓) **ALL** that apply. For each process checked, indicate the type of DAPC system.

Process	Type of DAPC System
G Raw material handling, preparation, and storage associated with the casters	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Building evacuation associated with the casters	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:

STOP

EXCLUDING WAPC SYSTEMS, CONTACT SPRAY WATER SYSTEMS, AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM CASTING OPERATIONS ARE PRESENT? _____

COMPLETE A COPY OF QUESTION 2J-5 FOR **EACH** CASTER WASTEWATER SOURCE. NUMBER EACH COPY OF QUESTION 2J-5 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2J-5 IS TWO PAGES LONG.

IF YOUR SITE HAS NO CASTER SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, CONTACT SPRAY WATER SYSTEM, OR STORM WATER, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2J-6.** **G**

2J-5. Provide information for any casters and related on-site wastewater generating sources.

G CBI a. Indicate the source of process wastewater **NOT** associated with wet air pollution control, contact spray water, or storm water. If there is more than one source at this site, complete a copy of this question for **EACH** casting source.

- **G** Raw material handling, preparation, and storage
- **G** Mold preparation for pressure casting
- **G** Losses from mold water system
- **G** Losses from machine water system
- **G** Equipment cleaning and washdown water
- **G** Other *(specify)*: _____

G CBI b. Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site ID written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and the product code, if known.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

G CBI c. Provide the wastewater flow rate and period of discharge associated with the source checked above.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2J-5 FOR EACH CASTING SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, CONTACT SPRAY WATER SYSTEM, OR STORM WATER.

G CBI **2J-5.**d. **(cont.)** Indicate the destination of this wastewater stream. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2J-6.** Provide information on any major process modifications and/or shut downs which have occurred at the casting operations since 1993. Provide caster designations in the description. Designation(s) should correspond with response(s) to Question 2J-1.b or 2J-2.a.

Shut Down or Modification?	Date	Description

G CBI **2J-7.** Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the casting operations. Provide caster designations in the description. Designation(s) should correspond with response(s) to Question 2J-1.b or 2J-2.a.

Shut Down or Modification?	Anticipated Date	Description

G CBI **2J-8.** Indicate **ALL** pollution prevention (waste reduction) or management practices implemented by your site for casting operations and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide caster designations in the description. Designation(s) should correspond with response(s) to Question 2J-1.b or 2J-2.a.

Management Practices	Description of Practice
G Management of fugitive discharges of process wastewaters and materials to any casting noncontact cooling water (NCCW) systems	
G Surveillance and corrective action programs for oil discharges from large NCCW flows associated with the casters	
G Collection and treatment and/or disposal of storm water from any areas associated with the casters (specify manufacturing processes or other collection areas in the description)	
G Collection and treatment and/or disposal of landfill leachate from any landfills associated with casting wastes	
G Collection and treatment and/or disposal of contaminated ground waters associated with the casters	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	

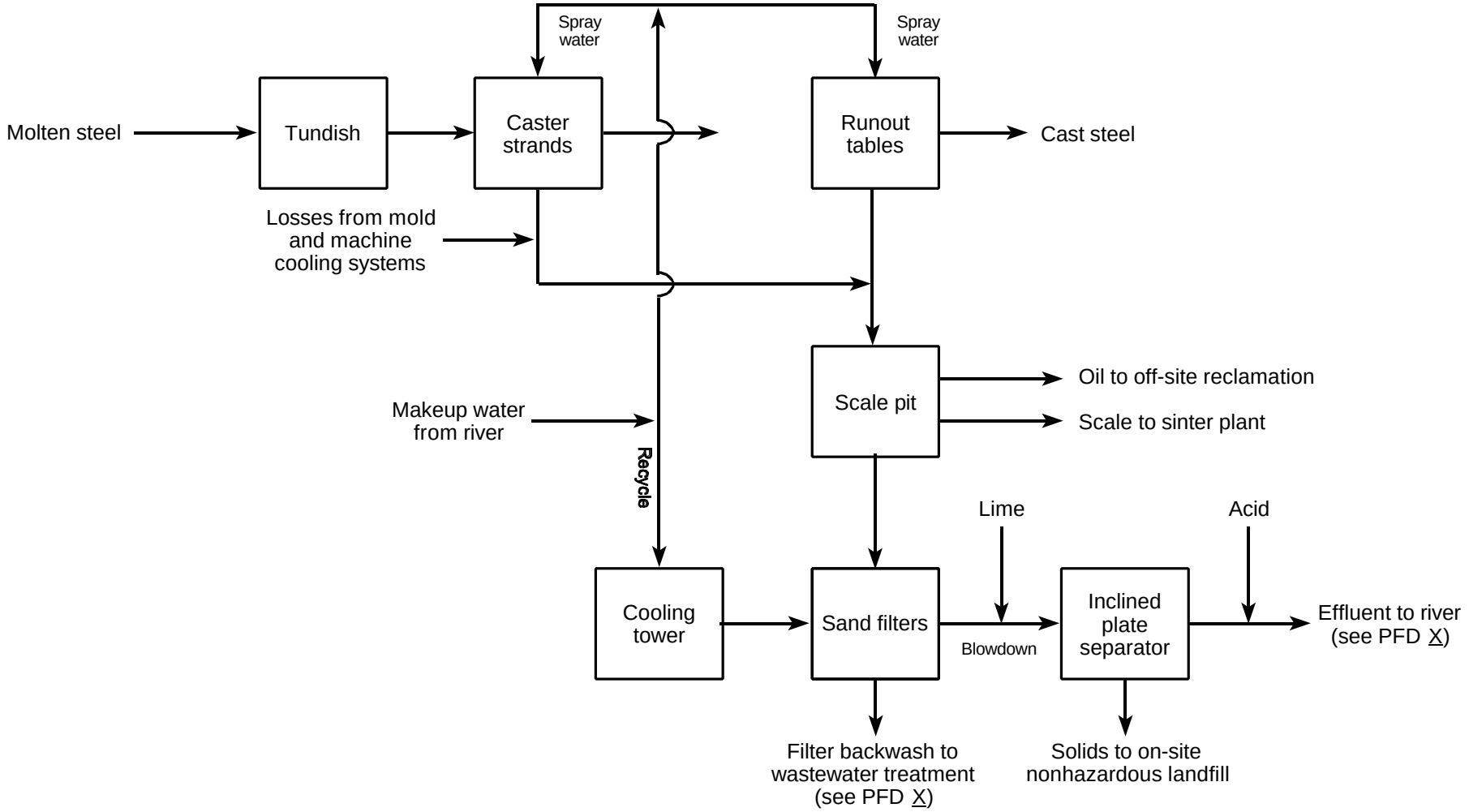
G CBI **2J-9.** Attach a process flow diagram (PFD) that shows the casting operations and the water use associated with these processes. You are **NOT** required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are NOT required on the diagrams.**

Provide the PFD number assigned to the casting operations PFD. **If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness.** If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Casting PFD-_____

Process Flow Diagram Checklist

Be sure...	✓
All casting operations are included. Include those operations which do not generate process wastewater.	**G**
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	**G**
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	**G**
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	**G**
Significant losses of water (e.g., evaporation) are shown.	**G**
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	**G**
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	**G**
The PFD number and your site ID number are written on the diagram.	**G**
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	**G**



Continuous Casting
Example Process Flow Diagram

COMMENTS FOR SECTION 2J: CASTING

Cross reference your comments by question number and indicate the confidential status of your comment by checking (✓) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CBI	Comment
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SECTION 2K. HOT FORMING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075

IS HOT FORMING PERFORMED AT THIS SITE?

G YES (CONTINUE)

G NO (SKIP TO SECTION 2L)

THROUGHOUT THIS SECTION YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR **ALL** OPERABLE UNITS AND WATER SYSTEMS RELATED TO HOT FORMING PROCESSES WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

HOW MANY **OPERABLE HOT FORMING PROCESSES** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF SECTION 2K FOR **EACH** OPERABLE HOT FORMING PROCESS. NOTE THAT AN ENTIRE MILL WITH MULTIPLE STANDS WOULD BE CONSIDERED A SINGLE PROCESS. NUMBER EACH COPY OF SECTION 2K IN THE SPACE PROVIDED AT THE TOP OF EACH PAGE.

G CBI **2K-1.** Provide the designation by which your site refers to this hot forming process (e.g., No. 1 strip mill). ____

_____

G CBI **2K-2.** What was the first year of operation for this hot forming process? _____

G CBI **2K-3.**a. What is the total rated capacity of this hot forming process (without considering reheat furnace capacity) in tons of steel formed per year?
_____ tons/year (to three significant figures, e.g., 635,000 tons/year)

G CBI b. What is the annual number of operating hours used to determine the total rated capacity?
_____ hours/year

G CBI **2K-4.** Provide annual production data for this hot forming process for each of the five calendar years 1993 through 1997.

Year	Steel formed (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI **2K-5.** Indicate what type of hot forming is performed at this process.

- **G** Drawing
- **G** Extrusion
- **G** Forging
- **G** Rolling
- **G** Pipe and tube - seamless (piercing)
- **G** Pipe and tube - seamless (extrusion)
- **G** Pipe and tube - butt-welded
- **G** Other *(specify)*: _____

G CBI **2K-6.**a. Is scarfing performed in conjunction with this hot forming process?

- **G** Yes (continue)
- **G** No (SKIP to Question 2K-7)

G CBI b. Indicate the type of scarfing performed in conjunction with this hot forming process. Check (✓) **ALL** that apply.

- **G** Machine scarfing
- **G** Hand scarfing

G CBI c. Indicate the type of scarfing emissions controls. Check (✓) **ALL** that apply.

- **G** Wet
- **G** Dry
- **G** None

G CBI **2K-7.** Indicate what types of steel were formed at this hot forming process in **1997**. Check (✓) **ALL** that apply. Provide the percentage of each type of steel formed. The percentages should add to 100 percent.

- **G** Carbon _____ %
- **G** Alloy _____ %
- **G** Stainless _____ %
- **G** Other metal products *(specify)*: _____ _____ %

Total: 100 %

G CBI **2K-8.** Indicate whether any of the following are applied to this hot forming process. Check (✓) **ALL** that apply.

- **G** Water for descaling
- **G** Water for roll or die cooling
- **G** Water for scale flushing
- **G** Synthetic mineral-based or animal-based solutions at one or more stands or stations.
- **G** Other *(specify)*: _____
- **G** None of the above

G CBI **2K-9.**a. Provide the number of operable mill stands or process stations employed by this hot forming process or mill during **1997**. Be sure to include all mill stands or process stations from the entrance of hot steel to the exit of semi-finished or finished product.

_____

G CBI b. Indicate the type(s) of process station(s) or mill stand(s) employed at this hot forming process or mill. Check (✓) **ALL** that apply.

G Butt-weld	**G** Forging	**G** Scarfer
G Coiler	**G** Inside diameter purge	**G** Seamless tube
G Deoxidizing station	**G** Intermediate (rolling)	**G** Steckle
G Drawing	**G** Piercing	**G** Stretch reducing
G Elongator	**G** Rolling	**G** Other *(specify)*: _____
G Extrusion	**G** Roughing (rolling)	**G** Other *(specify)*: _____
G Finishing (rolling)	**G** Scale breaking	**G** Other *(specify)*: _____

G CBI c. Is direct contact water* applied at this hot forming process or mill?

G Yes (continue)
G No (SKIP to Question 2K-9.e.)

G CBI d. Is the direct contact water* recirculated or applied once-through?

G Recirculated
G Once-through

G CBI e. Are forming/rolling solutions* applied at this hot forming process or mill?

G Yes (continue)
G No (SKIP to Question 2K-9.g.)

G CBI f. Are the forming/rolling solutions* recirculated or applied once-through?

G Recirculated
G Once-through

G CBI g. Are wet emission controls employed for this hot forming process or mill?

G Yes
G No

G CBI h. Is flume flushing used for scale removal at this hot forming process or mill?

G Yes
G No

G CBI i. Is the wastewater from this hot forming process or mill discharged to one or more scale pit(s)?

G Yes
G No

*Forming/rolling solutions have chemicals added to aid in the forming/rolling process. Direct contact water does not.

G CBI **2K-10.**a. Indicate the product(s) formed at this hot forming process. Check (✓) **ALL** that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G Bars				
G Beams				
G Billets (if shape is round, do not provide thickness)				
G Blooms				
G Pipes (provide inside diameter and wall thickness)				
G Plates				
G Railroad rails				
G Railroad wheels				
G Reinforcing bar				
G Rods				
G Sheets				
G Slabs				
G Small structurals				
G Strips				
G Tubes (provide outside diameter or width and wall thickness)				
G Wire				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				

Examples of shape:

Beams:	H, I, wide-flange
Bars:	square, rectangular, hexagonal
Billets:	square, rectangular, round
Small structurals:	angles, channels, tees, zees

G CBI b. Provide the dimensions of the hot formed product which had the highest production in **1997**.

Shape _____ Length _____ Width _____ Thickness _____

G CBI c. What was the annual production for this product in **1997**? _____ tons per year

G CBI d. What percent of overall production in **1997** at this process did this product represent? _____ %

HOW MANY **SEPARATE OPERABLE DIRECT CONTACT WATER SYSTEMS OR ROLLING SOLUTION SYSTEMS** WERE ON SITE AT THIS HOT FORMING PROCESS DURING **1997**? _____

COMPLETE A COPY OF QUESTION 2K-11 FOR **EACH** OPERABLE DIRECT CONTACT WATER SYSTEM OR **EACH** OPERABLE ROLLING SOLUTION SYSTEM. NUMBER EACH COPY OF QUESTION 2K-11 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2K-11 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE ANY DIRECT CONTACT WATER SYSTEMS OR ROLLING SOLUTION SYSTEMS ASSOCIATED WITH THIS HOT FORMING PROCESS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2K-12.** **G**

G CBI **2K-11.**a. Indicate the function(s) of this direct contact water or rolling solution system. Check (✓) **ALL** that apply.

- **G** High pressure descaling spray
- **G** Roll and/or roll table spray cooling
- **G** Die spray cooling
- **G** Scarfer emissions control
- **G** Hot shear spray cooling
- **G** Flume flushing
- **G** Low pressure/laminar flow cooling
- **G** Product cooling including runout tables
- **G** Other *(specify)*: _____

G CBI b. What year was this direct contact water system installed? _____

G CBI c. Is the water or solution recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2K-11.j.)

G CBI d. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2K-11.h.)

G CBI e. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes - Treatment shared with other processes

Specify the processes: _____

G CBI f. Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

COMPLETE A COPY OF QUESTION 2K-11 FOR EACH OPERABLE DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM.

G CBI **2K-11.**g. **(cont.)** Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Emulsified rolling oils
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** None

G CBI h. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI i. Provide the average recirculation rate of water through the system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI j. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI k. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total 100 %

G CBI l. Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2K-11 FOR EACH OPERABLE DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM.

G CBI **2K-11.**m. **(cont.)** Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

HOW MANY **OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS** WERE ON SITE AT THIS HOT FORMING PROCESS DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT. _____

COMPLETE A COPY OF QUESTION 2K-12 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2K-12 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2K-12 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH THIS HOT FORMING PROCESS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2K-13.** **G**

G CBI **2K-12.**a. Provide the designation(s) of all operations associated with this WAPC system. If information for this WAPC system is already provided elsewhere in this survey, answer Question 2K-12.a., check the box to the right, and SKIP to Question 2K-13. **G**

_____

G CBI b. This WAPC system controls emissions from which of the following processes? Check (✓) **ALL** that apply.

- **G** Raw material handling, preparation, and storage
- **G** Process station or mill stand emissions
- **G** Reheat furnace
- **G** Building evacuation
- **G** Other *(specify)*: _____

G CBI c. Indicate the devices in this WAPC system. Check (✓) **ALL** that apply.

- **G** Venturi scrubber
- **G** Spray chamber
- **G** Evaporator chamber
- **G** Separator
- **G** Demister
- **G** Packed tower
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI d. Provide the gas or air flow through the system in dry standard cubic feet per minute (dscfm).

_____ dscfm

G CBI e. Is the water recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2K-12.l.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2K-12.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes - Treatment shared with other processes

Specify the processes: _____

COMPLETE A COPY OF QUESTION 2K-12 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2K-12.**h. **(cont.)** Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI i. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI j. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI k. Provide the average recirculation rate of water through the WAPC system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI l. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI m. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

COMPLETE A COPY OF QUESTION 2K-12 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2K-12.**n. **(cont.)** Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI o. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2K-13.**a. Are any dry air pollution control (DAPC) systems associated with this hot forming process?

G Yes (continue)

G No (SKIP to Question 2K-14)

G CBI b. Indicate the process(es) associated with DAPC systems in this hot forming process. Check (✓) **ALL** that apply. For each process checked, indicate the type of DAPC system.

Process	Type of DAPC System
G Raw material handling, preparation, and storage associated with this hot forming process	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Process station or mill stand emissions	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Reheat furnace	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Building evacuation associated with this hot forming process	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:

STOP

EXCLUDING DIRECT CONTACT WATER SYSTEMS, WAPC SYSTEMS, AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM THIS HOT FORMING PROCESS ARE PRESENT? _____

COMPLETE A COPY OF QUESTION 2K-14 FOR **EACH** HOT FORMING PROCESS WASTEWATER SOURCE. NUMBER EACH COPY OF QUESTION 2K-14 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2K-14 IS TWO PAGES LONG.

IF YOUR SITE HAS NO HOT FORMING PROCESS SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A DIRECT CONTACT WATER SYSTEM, A WAPC SYSTEM, OR STORM WATER, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2K-15.** **G**

2K-14. Provide information for this hot forming process and related on-site wastewater generating sources.

G CBI a. Indicate the source of process wastewater **NOT** associated with a direct contact water system, wet air pollution control, or storm water. If there is more than one source at this site, complete a copy of this question for **EACH** hot forming process source.

- **G** Lubricating oil condition systems
- **G** Strip coilers
- **G** Roll shops
- **G** Basement sumps
- **G** Rolling solution
- **G** Scarfer water
- **G** Equipment cleaning and washdown water
- **G** Other *(specify)*: _____

G CBI b. Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site ID written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and the product code, if known.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

G CBI c. Provide the wastewater flow rate and period of discharge associated with the source checked above (provide a best engineering estimate if actual values are not available).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2K-14 FOR EACH HOT FORMING SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A DIRECT CONTACT SYSTEM, A WAPC SYSTEM, OR STORM WATER.

G CBI **2K-14.**d. **(cont.)** Indicate the destination of this wastewater stream. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2K-15.** Provide information on any major process modifications and/or shut downs which have occurred at this hot forming process since 1993.

Shut Down or Modification?	Date	Description

G CBI **2K-16.** Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at this hot forming process.

Shut Down or Modification?	Anticipated Date	Description

G CBI **2K-17.** Indicate **ALL** pollution prevention (waste reduction) or management practices implemented by your site for this hot forming process and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered.

Management Practices	Description of Practice
G Management of spillage and losses from raw material handling operations associated with this hot forming process	
G Management of runoff from raw material or product storage piles associated with this hot forming process	
G Management of fugitive discharges of process wastewaters and materials to this hot forming process noncontact cooling water (NCCW) system	
G Surveillance and corrective action programs for oil discharges from large NCCW flows associated with this hot forming process	
G Collection and treatment and/or disposal of storm water from any areas associated with this hot forming process (specify manufacturing processes or other collection areas in the description)	
G Collection and treatment and/or disposal of landfill leachate from any landfills associated with this hot forming process's wastes	
G Collection and treatment and/or disposal of contaminated ground waters associated with this hot forming process	
G Practices for oil selection, management, and conservation at this hot forming process	
G Other *(specify)*:	
G Other *(specify)*:	

G CBI **2K-18.** Attach a process flow diagram (PFD) that shows this hot forming process and the water use associated with this process. You are **NOT** required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are NOT required on the diagrams.**

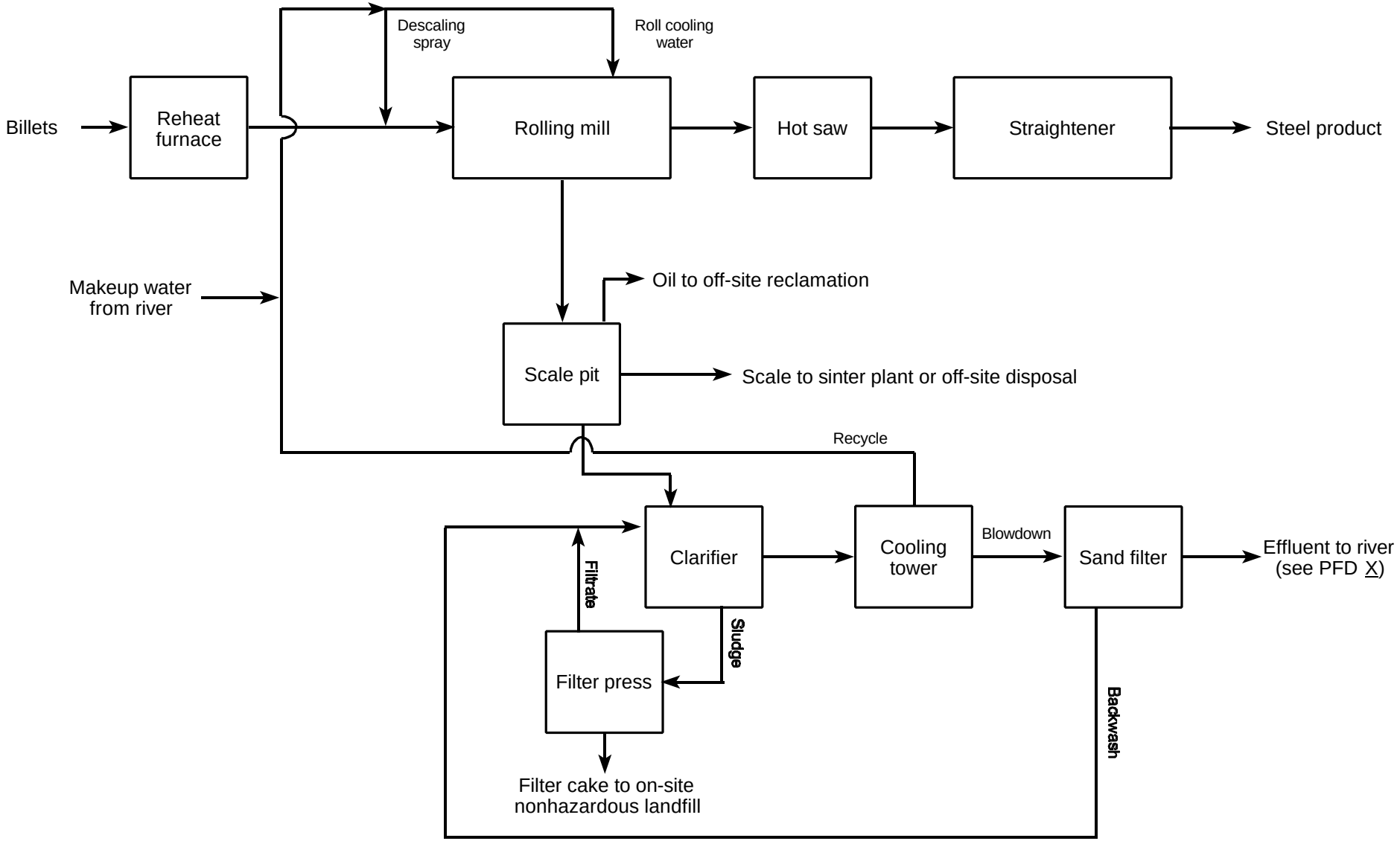
Provide the PFD number assigned to this hot forming process PFD. **If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness.** If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Hot forming PFD-_____

Process Flow Diagram Checklist

Be sure...	✓
All hot forming operations are included. Include those operations which do not generate process wastewater.	**G**
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	**G**
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	**G**
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	**G**
Significant losses of water (e.g., evaporation) are shown.	**G**
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	**G**
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	**G**
The PFD number and your site ID number are written on the diagram.	**G**
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	**G**

Site ID XXXX
PFD 14



Hot Forming
Example Process Flow Diagram

COMMENTS FOR SECTION 2K: HOT FORMING

Cross reference your comments by question number and indicate the confidential status of your comment by checking (✓) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CBI	Comment
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SECTION 2L. ACID PICKLING AND DESCALING (INCLUDING ACID REGENERATION)

TECHNICAL INFORMATION HELP LINE: (800) 357-7075

IS ACID PICKLING AND/OR DESCALING PERFORMED AT THIS SITE (REFER TO THE DEFINITIONS SECTION FOR ACID CLEANING AND ACID PICKLING)?

G YES
G NO

IS ACID REGENERATION PERFORMED AT THIS SITE?

G YES
G NO

IF "NO" IS INDICATED FOR BOTH QUESTIONS, SKIP TO SECTION 2M.

IF ACID REGENERATION IS PERFORMED BUT ACID PICKLING AND DESCALING ARE NOT PERFORMED AT THIS SITE, SKIP TO QUESTION 2L-9.

THROUGHOUT THIS SECTION, YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR **ALL** OPERABLE UNITS AND WATER SYSTEMS RELATED TO ACID PICKLING, DESCALING, AND/OR ACID REGENERATION WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

ACID PICKLING AND DESCALING OPERATIONS INCLUDE ACID PICKLING, SALT BATH DESCALING, DESCALING PERFORMED WITH OTHER SOLUTIONS SUCH AS ELECTROLYTIC SODIUM SULFATE, AND THEIR ASSOCIATED RINSING OPERATIONS.

FOR THIS SECTION AND SECTION 2N, INFORMATION IS COLLECTED FOR PROCESS LINES OR AREAS. THESE LINES OR AREAS CAN BE DEFINED BY SITE PERSONNEL. **IF THE PRIMARY FUNCTION OF THE PROCESS LINE OR AREA IS CLEANING (E.G., ACID AND ALKALINE CLEANING) OR COATING (E.G., HOT DIP COATING AND ELECTROPLATING), THEN COMPLETE SECTION 2N INSTEAD OF THIS SECTION. IF ACID PICKLING OR DESCALING IS PERFORMED IN CONJUNCTION WITH ANNEALING IN THE SAME PROCESS LINE OR AREA, THEN INCLUDE ANNEALING IN THIS SECTION.**

HOW MANY **OPERABLE ACID PICKLING AND/OR DESCALING LINES OR AREAS** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF QUESTION 2L-1 THROUGH 2L-8 FOR **EACH** OPERABLE ACID PICKLING AND/OR DESCALING PROCESS LINE OR AREA. NUMBER EACH COPY OF QUESTIONS 2L-1 THROUGH 2L-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTIONS 2L-1 THROUGH 2L-8 ARE 11 PAGES LONG.

G CBI **2L-1.** Provide the designation by which your site refers to this process line or area (e.g., No. 1 hydrochloric pickling line).

_____

G CBI **2L-2.** What was the first year of operation for this process line or area? _____

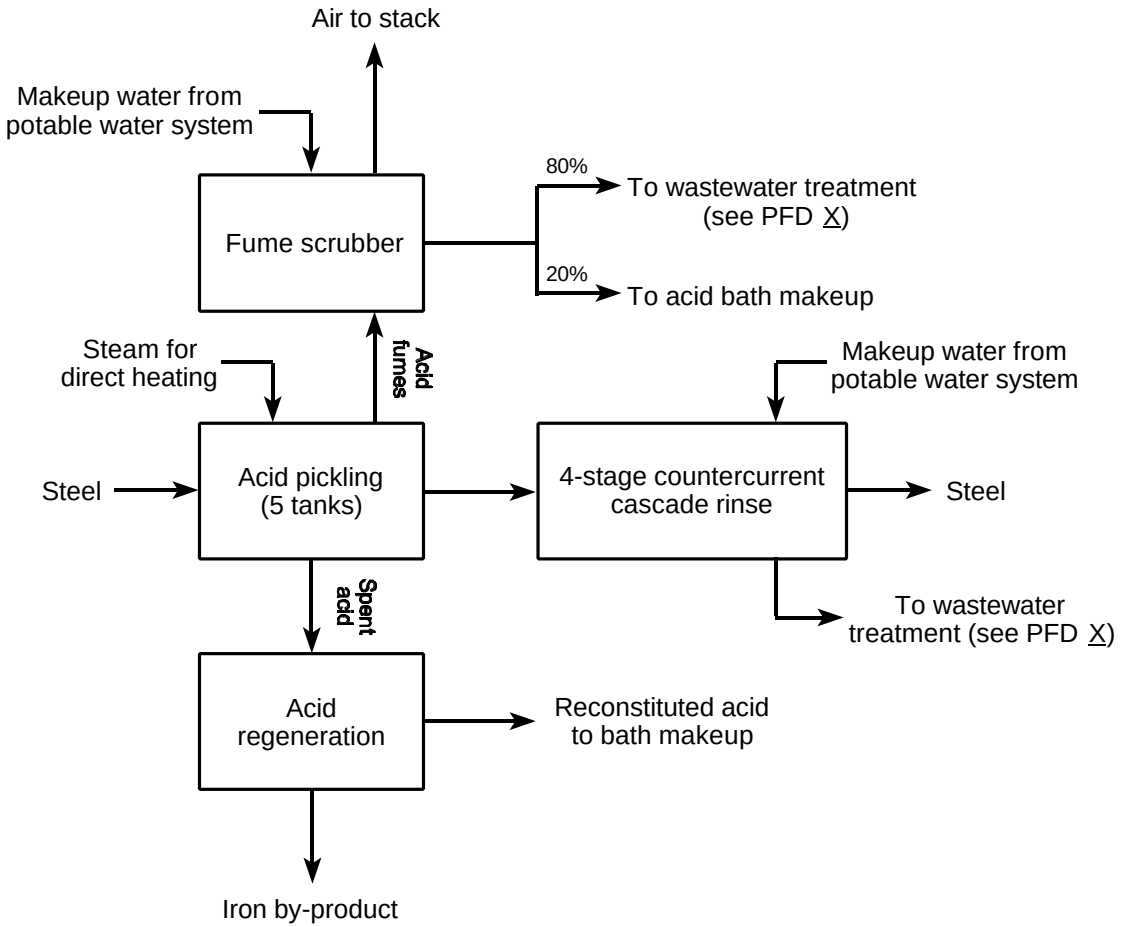
G CBI **2L-3.** Attach a process flow diagram (PFD) that shows the operations and the water use associated with this process. You are **NOT** required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are NOT required on the diagrams.**

Provide the PFD number assigned to the PFD. **If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness.** If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Acid pickling and/or descaling (including acid regeneration) PFD-_____

Process Flow Diagram Checklist

Be sure...	✓
All acid pickling and/or descaling (including acid regeneration) operations on the line or in the area are included. Include those operations which do not generate process wastewater.	**G**
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	**G**
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	**G**
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	**G**
Significant losses of water (e.g., evaporation) are shown.	**G**
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	**G**
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	**G**
The PFD number and your site ID number are written on the diagram.	**G**
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	**G**



Acid Pickling Line
Example Process Flow Diagram

G CBI **2L-4.**a. What is the total rated capacity of this process line or area in tons of steel pickled or descaled per year?

_____ tons/year (to three significant figures, e.g., 825,000 tons/year)

G CBI b. What is the annual number of operating hours used to determine the total rated capacity?

_____ hours/year

G CBI **2L-5.** Indicate the operations performed at this process line or area. Check (✓) **ALL** that apply. Indicate the number of operable units for each type of process.

Type of Process	Number of Operable Units (e.g., tanks or furnaces) in This Process Line or Area
G Acid pickling	
G Acid pickling rinse	
G Acid cleaning	
G Acid cleaning rinse	
G Alkaline cleaning	
G Alkaline cleaning rinse	
G Descaling - Kolene® bath	
G Descaling - Hydride® bath	
G Descaling - electrolytic sodium sulfate	
G Descaling rinse	
G Annealing	
G Annealing quench or rinse	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	

G CBI **2L-6.** Provide annual production data for this process line or area for each of the five calendar years 1993 through 1997.

Year	Steel Pickled or Descaled (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI **2L-7.**a. Indicate the product(s) processed on this line or area. Check (✓) **ALL** that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G Bars				
G Billets (if shape is round, do not provide thickness)				
G Pipes (provide inside diameter and wall thickness)				
G Plates				
G Reinforcing bar				
G Rods				
G Sheets				
G Small structurals				
G Strips				
G Tubes (provide outside diameter or width and wall thickness)				
G Wire				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				

Examples of shape:

Beams:	H, I, wide-flange
Bars:	square, rectangular, hexagonal
Billets:	square, rectangular, round
Small structurals:	angles, channels, tees, zees

G CBI b. Provide the dimensions of the product processed on this line or area which had the highest production in **1997**.

Shape _____ Length _____ Width _____ Thickness _____

G CBI c. What was the annual production for this product in **1997**? _____ tons per year

G CBI d. What percent of overall production in **1997** at this process did this product represent? _____ %

HOW MANY **OPERATIONS, INCLUDING ASSOCIATED RINSES,** ARE IN THIS PROCESS LINE OR AREA?
_____

COMPLETE A COPY OF QUESTION 2L-8 FOR **EACH** OPERATION **AND** ITS ASSOCIATED RINSE, IF APPLICABLE. FOR EXAMPLE, TWO ACID PICKLING BATHS FOLLOWED BY THREE RINSES ONLY NEED ONE RESPONSE TO QUESTION 2L-8. DO NOT RESPOND TO THIS QUESTION FOR ANNEALING FURNACES UNLESS FOLLOWED BY A WATER QUENCH. NUMBER EACH COPY OF QUESTION 2L-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2L-8 IS FIVE PAGES LONG.

G CBI **2L-8.**a. Provide the designation by which your site refers to this operation (and its associated rinse, if applicable).

_____

G CBI b. Indicate the type of operation (and its associated rinse, if applicable) performed. Check (✓) **ALL** that apply.

- **G** Acid pickling
- **G** Acid pickling rinse
- **G** Alkaline cleaning
- **G** Alkaline cleaning rinse
- **G** Batch annealing
- **G** Continuous annealing
- **G** Annealing rinse or quench
- **G** Descaling
  - **G** Kolene® bath
  - **G** Hydride® bath
  - **G** Electrolytic sodium sulfate
  - **G** Other *(specify)*: _____
- **G** Descaling rinse
- **G** Other *(specify)*: _____

G CBI c. Indicate the previous operation and/or rinse that the steel entering this operation had left. Check (✓) **ALL** that apply.

- **G** Acid pickling
- **G** Acid pickling rinse
- **G** Alkaline cleaning
- **G** Alkaline cleaning rinse
- **G** Descaling
  - **G** Kolene® bath
  - **G** Hydride® bath
  - **G** Electrolytic sodium sulfate
  - **G** Other *(specify)*: _____
- **G** Descaling rinse
- **G** Batch annealing
- **G** Continuous annealing
- **G** Annealing rinse or quench
- **G** Cold forming
- **G** Hot forming
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G NA - Beginning of process line

G CBI d. Indicate the next operation that the steel leaving this operation would enter. Check (✓) **ALL** that apply.

- **G** Acid pickling
- **G** Acid cleaning
- **G** Alkaline cleaning
- **G** Batch annealing
- **G** Continuous annealing
- **G** Cold forming
- **G** Descaling
  - **G** Kolene® bath
  - **G** Hydride® bath
  - **G** Electrolytic sodium sulfate
  - **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G NA - End of process line

COMPLETE A COPY OF QUESTION 2L-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2L-8.**e. **(cont.)** Indicate the chemicals added to the solution of this operation and the solution strength (% by volume). If there are multiple tanks for this operation, provide the range of solution strengths.

- **G** Hydrochloric acid _____ %
- **G** Sulfuric acid _____ %
- **G** Nitric acid _____ %
- **G** Hydrofluoric acid _____ %
- **G** Sodium hydroxide _____ %
- **G** Potassium hydroxide _____ %
- **G** Kolene® _____ %
- **G** Hydride® _____ %
- **G** Chromic acid _____ %
- **G** Sodium dichromate _____ %
- **G** Urea _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** None added

G CBI f. Indicate the method for heating the solution from this operation (and its associated rinse, if applicable).

Heating Method	Solution	Rinse
Direct steam injection	**G**	**G**
Indirect heating with heat exchanger (noncontact)	**G**	**G**
Other *(specify)*:	**G**	**G**
Other *(specify)*:	**G**	**G**
Not heated (if both are checked, SKIP to Question 2L-8.h)	**G**	**G**

G CBI g. Provide the operating temperature of the solution from this operation (and its associated rinse, if applicable). For multiple tanks operating in series at different temperatures, provide the range of temperatures.

Solution: _____ **G**°F **G**°C **G** Not applicable
Rinse: _____ **G**°F **G**°C **G** Not applicable

COMPLETE A COPY OF QUESTION 2L-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2L-8.**h. **(cont.)** Indicate the method for agitating or stirring the solution from this operation (and its associated rinse, if applicable).

Agitating or Stirring Method	Solution	Rinse
Air sparging	**G**	**G**
Mechanical agitation	**G**	**G**
Other *(specify)*:	**G**	**G**
Other *(specify)*:	**G**	**G**
Not agitated or stirred	**G**	**G**

G CBI i. Is a fume scrubber or wet air pollution control system associated with the solution from this operation (and its associated rinse, if applicable).

Associated Fume Scrubber or Wet Air Pollution Control	Solution	Rinse
Yes	**G**	**G**
No	**G**	**G**

G CBI j. Indicate **ALL** sources of water addition for the **SOLUTION** from this operation. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

G Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %

G Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %

G Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %

G Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %

G Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %

G Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %

G Other *(specify)*: _____ _____ %

Total: 100 %

G CBI k. Provide the blowdown or discharge rate of the **SOLUTION** from this operation and period of discharge.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2L-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA

G CBI **2L-8.**l. **(cont.)** Indicate the method(s) by which your site disposes of the **SOLUTION** from this operation. Check (✓) **ALL** that apply.

- **G** On-site regeneration and reuse
- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI m. Indicate **ALL** sources of water addition for the **ASSOCIATED RINSE**. Provide the percentage of water contributed by each source. The percentages should add to 100 percent. If there is **NOT** an associated rinse, check the box to the right and SKIP to Question 2L-9. **G**

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

G CBI n. Provide the blowdown or discharge rate from the **ASSOCIATED RINSE** and period of discharge.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2L-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2L-8.**o. **(cont.)** Indicate the method(s) by which your site disposes of the **ASSOCIATED RINSE**. Check (✓) **ALL** that apply.

- **G** On-site regeneration and reuse
- **G** Discharge to another process or rinse *(specify process or rinse designation)*: _____
- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI p. Indicate whether the **ASSOCIATED RINSE** is operated as a spray or immersion.

- **G** Spray
- **G** Immersion
- **G** Both

G CBI q. Indicate the flow pattern of the **ASSOCIATED RINSE**.

- **G** Recirculation with blowdown
- **G** Multiple-stage countercurrent cascade
  Indicate number of stages: _____
- **G** Stagnant with batch discharge
- **G** Once-through with continuous flow
- **G** Once-through with intermittent flow
- **G** Other *(specify)*: _____

HOW MANY **OPERABLE ACID REGENERATION PLANTS** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF QUESTION 2L-9 FOR **EACH** OPERABLE ACID REGENERATION PLANT. NUMBER EACH COPY OF QUESTION 2L-9 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2L-9 IS ONE PAGE LONG.

IF YOUR SITE DOES NOT HAVE ANY ACID REGENERATION PLANTS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2L-10.** **G**

G CBI **2L-9.**a. Provide the designation by which your site refers to this acid regeneration plant.

_____

G CBI b. Which acids are regenerated by this plant? Indicate the solution strength of the regenerated acids (% by volume).

G Hydrochloric acid _____ %

G Sulfuric acid _____ %

G Other *(specify)*: _____ _____ %

G CBI c. How many gallons of spent acid are processed in this acid regeneration plant each day?

_____ gallons per day

G CBI d. Provide the name of the manufacturer of this acid regeneration plant.

_____

G CBI e. Provide the method of regeneration and list the products, by-products, and wastes produced by this acid regeneration plant.

_____

_____

_____

_____

G CBI f. Provide costs paid during **1997** for the disposal of by-products or wastes and the rate of disposal.

Disposal costs incurred: $ _____

Rate of disposal: $ _____ per **G** pound **G** ton

G Not applicable

G CBI g. Provide the revenue received during **1997** for the sale of by-products or wastes and the rate of sale.

Revenue received: $ _____

Rate of sale: $ _____ per **G** pound **G** ton

G Not applicable

HOW MANY **OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS** WERE ON SITE AT THIS ACID PICKLING OR DESCALING OPERATION OR ACID REGENERATION PLANT DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT. _____

COMPLETE A COPY OF QUESTION 2L-10 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2L-10 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2L-10 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH ANY PROCESS LINES OR AREAS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2L-11.** **G**

G CBI **2L-10.**a. Provide the designation(s) of the process line(s), unit operation(s), acid regeneration plant(s) and all other operations associated with this WAPC system. Designation(s) should correspond with response(s) to Questions 2L-1 (process line or area), 2L-8.a. (operations and associated rinses), or 2L-9.a. (acid regeneration plant). If information for this WAPC system is already provided elsewhere in this survey, answer Question 2L-10.a., check the box to the right, and SKIP to Question 2L-11. **G**

_____

_____

G CBI b. This WAPC system controls emissions from which of the following? Check (✓) **ALL** that apply.

G Process baths
G Acid regeneration
G Building evacuation
G Other *(specify)*: _____

G CBI c. Indicate the devices in this WAPC system. Check (✓) **ALL** that apply.

G Venturi scrubber
G Spray chamber
G Evaporation chamber
G Separator
G Demister
G Packed tower
G Other *(specify)*: _____
G Other *(specify)*: _____

G CBI d. Provide the gas or air flow through the system in dry standard cubic feet per minute (dscfm).

_____ dscfm

G CBI e. Is the water recirculated or applied once-through?

G Recirculated (continue)
G Once-through (SKIP to Question 2L-10.l.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

G Yes (continue)
G No (SKIP to Question 2L-10.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

G No - Dedicated treatment
G Yes - Treatment shared with other processes

Specify the processes: _____

COMPLETE A COPY OF QUESTION 2L-10 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2L-10.**h. **(cont.)** Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner types)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI i. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI j. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI k. Provide the average recirculation rate of water through the WAPC system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI l. Provide the average rate at which new water is added to the system and period of water addition (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI m. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

COMPLETE A COPY OF QUESTION 2L-10 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2L-10.**n. **(cont.)** Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI o. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Process solution makeup water *(specify process)*: _____
- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation ponds
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2L-11.**a. Are any dry air pollution control (DAPC) systems associated with the acid pickling or descaling operations or acid regeneration plants?

- G Yes (continue)
- G No (SKIP to Question 2L-12)

G CBI b. Provide the acid pickling, descaling, or acid regeneration designations associated with any DAPC system, one per line. Designation(s) should correspond with response(s) to Question 2L-1 (process line or area) or 2L-9.a. (acid regeneration). For each process listed, indicate the type of DAPC system.

Process Line or Area Designations	Type of DAPC System
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:

STOP

EXCLUDING WAPC SYSTEMS, PROCESS DISCHARGES, ACID REGENERATION, AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM ACID PICKLING AND DESCALING OPERATIONS OR ACID REGENERATION ARE PRESENT?

_____

COMPLETE A COPY OF QUESTION 2L-12 FOR **EACH** ACID PICKLING, DESCALING, OR ACID REGENERATION WASTEWATER SOURCE. NUMBER EACH COPY OF QUESTION 2L-12 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2L-12 IS TWO PAGES LONG.

IF YOUR SITE HAS NO SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, PROCESS DISCHARGES, ACID REGENERATION, OR STORM WATER, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2L-13.** **G**

2L-12. Provide information for the acid pickling, descaling, or acid regeneration operations and related on-site wastewater generating sources.

G CBI a. Indicate the source of process wastewater **NOT** associated with wet air pollution control, process discharges, acid regeneration, or storm water. If there is more than one source at this site, complete a copy of this question for **EACH** acid pickling, descaling, or acid regeneration source.

- **G** Raw material handling, preparation, and storage
- **G** Tank clean outs
- **G** Equipment cleaning and washdown water
- **G** Other *(specify)*: _____

G CBI b. Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site ID written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and the product code, if known.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

G CBI c. Provide the wastewater flow rate and period of discharge associated with the source checked above.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2L-12 FOR EACH ACID PICKLING AND DESCALING OR ACID REGENERATION SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, PROCESS DISCHARGES, ACID REGENERATION, OR STORM WATER.

G CBI **2L-12.**d. **(cont.)** Indicate the destination of this wastewater stream. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:

  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2L-13.** Provide information on any major process modifications and/or shut downs which have occurred at the acid pickling, descaling, and/or acid regeneration operations at this site since 1993. Provide the process line or area or acid regeneration designations in the description. Designation(s) should correspond with response(s) to Question 2L-1 (process lines or area) or 2L-9.a. (acid regeneration).

Shut Down or Modification?	Date	Description

G CBI **2L-14.** Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the acid pickling, descaling, and/or acid regeneration operations at this site. Provide the process line or area or acid regeneration designations in the description. Designation(s) should correspond with response(s) to Question 2L-1 (process lines or area) or 2L-9.a. (acid regeneration).

Shut Down or Modification?	Anticipated Date	Description

G CBI **2L-15.** Indicate **ALL** pollution prevention (waste reduction) or management practices implemented by your site for the acid pickling, descaling, and/or acid regeneration operations at this site and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide the process line or area or acid regeneration designations in the description. Designation(s) should correspond with response(s) to Question 2L-1 (process lines or area) or 2L-9.a. (acid regeneration).

Management Practices	Description of Practice
G Management of spillage and losses from operations associated with acid pickling, descaling, and/or acid regeneration	
G Recovery and/or reuse of acid pickling or descaling solutions other than acid regeneration	
G Management of runoff from raw material storage areas associated with acid pickling, descaling, and/or acid regeneration	
G Use of at-the-source purification systems to extend bath life	
G Reuse of WAPC wastewater for chemical bath makeup	
G Countercurrent cascade rinsing	
G Reuse of rinse water for chemical bath makeup	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	

COMMENTS FOR SECTION 2L: ACID PICKLING AND DESCALING (INCLUDING ACID REGENERATION)

Cross reference your comments by question number and indicate the confidential status of your comment by checking (✓) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CBI	Comment
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SECTION 2M. COLD FORMING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075

IS COLD FORMING PERFORMED AT THIS SITE?

G YES (CONTINUE)

G NO (SKIP TO SECTION 2N)

THROUGHOUT THIS SECTION, YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR **ALL** OPERABLE UNITS AND WATER SYSTEMS RELATED TO COLD FORMING PROCESSES WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

HOW MANY **OPERABLE COLD FORMING PROCESSES** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF SECTION 2M FOR **EACH** OPERABLE COLD FORMING PROCESS. IF YOUR SITE EMPLOYS MULTIPLE OPERABLE UNITS FOR ELECTRIC-RESISTANCE-WELDED (ERW) PIPE/TUBE OPERATIONS, PIPE/TUBE DRAWING OPERATIONS, OR WIRE DRAWING OPERATIONS, A COPY OF SECTION 2M MAY BE COMPLETED FOR EACH GROUP OF OPERATIONS OF THESE TYPES. FOR EXAMPLE, TWO ERW MILLS AND FOUR SEPARATE PIPE/TUBE DRAWING OPERATIONS REQUIRE COMPLETION OF ONLY TWO COPIES OF SECTION 2M (ONE FOR THE ERW MILLS AND ONE FOR THE PIPE/TUBE DRAWING OPERATIONS). BE SURE TO PROVIDE THE NUMBER OF OPERABLE UNITS ASSOCIATED WITH A COLD FORMING OPERATION IN QUESTION 2M-4. NUMBER EACH COPY OF SECTION 2M IN THE SPACE PROVIDED AT THE TOP OF EACH PAGE.

G CBI **2M-1.** Provide the designation by which your site refers to this cold forming process (e.g., No. 1 tandem mill, 3 drawing benches). _____

_____

G CBI **2M-2.** What was the first year of operation for this cold forming process? _____

G CBI **2M-3.**a. What is the total rated capacity of this cold forming process in tons of steel formed per year?

_____ tons/year (to three significant figures, e.g., 545,000 tons/year)

G CBI b. What is the annual number of operating hours used to determine the total rated capacity?

_____ hours/year

G CBI **2M-4.** Indicate what type of cold forming is performed and the number of operable units associated with this forming process.

G Drawing - wire; number of operable units: _____

G Drawing - pipe and tube; number of operable units: _____

G Drawing - other than pipe and tube or wire; number of operable units: _____

G Extrusion

G Forging

G Electric-resistance-welding (pipe and tube); number of operable units: _____

G Rolling

G Other *(specify)*: _____

G CBI **2M-5.** What types of steel were formed at this cold forming process in 1997? Check (✓) **ALL** that apply. The percentages should add to 100 percent.

G Carbon _____ %

G Alloy _____ %

G Stainless _____ %

G Other metal products *(specify)*: _____ _____ %

Total: 100 %

G CBI **2M-6.** Provide annual production data for this cold forming process for each of the five calendar years 1993 through 1997.

Year	Steel Cold Formed (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI **2M-7.** Attach a process flow diagram (PFD) that shows this cold forming process and the water use associated with this process. You are **NOT** required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are NOT required on the diagrams.**

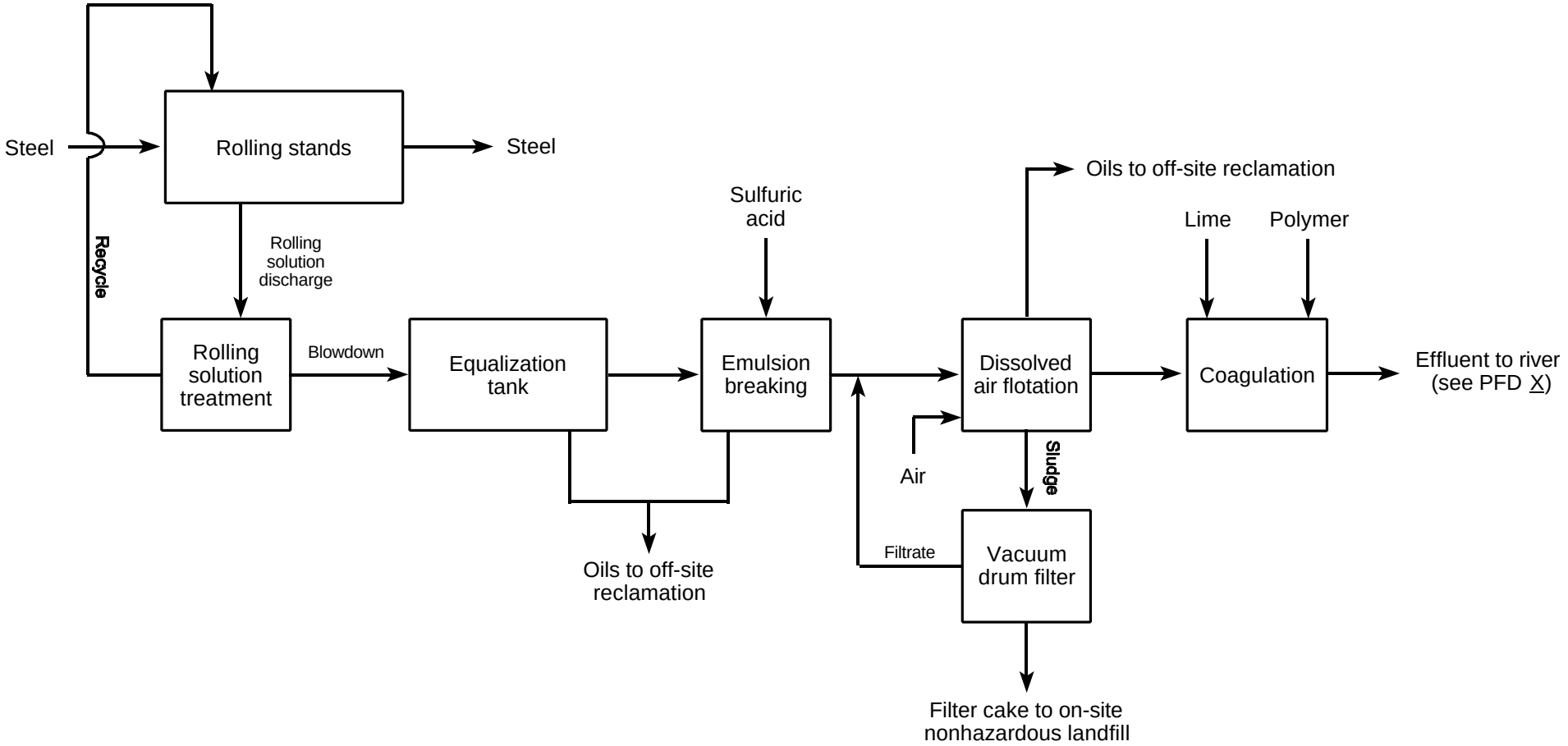
Provide the PFD number assigned to this cold forming PFD. **If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness.** If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Cold forming PFD-_____

Process Flow Diagram Checklist

Be sure...	✓
All cold forming operations are included. Include those operations which do not generate process wastewater.	**G**
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	**G**
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	**G**
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	**G**
Significant losses of water (e.g., evaporation) are shown.	**G**
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	**G**
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	**G**
The PFD number and your site ID number are written on the diagram.	**G**
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	**G**

Site ID **XXXX**
PFD **16**



2M-4

Cold Forming
Example Process Flow Diagram

G CBI **2M-8.** Describe the configuration of this cold forming process or mill from where the steel enters to where the semi-finished or finished product exits. Complete one row for each process station or mill stand. Indicate the site designation of each station or stand and the station or stand number (e.g., 1-temper mill); whether it is a single pass or reversing; whether rolling solutions are applied; what type of rolling solutions are used; and whether direct contact water is applied. **If you need additional space, photocopy this page before writing on it and number each copy of Question 2M-8 in the space provided in the upper right corner. Note: Question 2M-8 is one page long.**

Process Station or Mill Stand Designation (see list below) and Stand Number	Single Pass (SP)/ Reversing (R)	Forming/Rolling Solutions*					Direct Contact Water (with no rolling solution)*	
		Applied	Once-Through (OT) or Recycled (R)	Animal-fat based solution	Synthetic solution	Detergent or other solutions	Applied	Once-Through (OT) or Recycled (R)
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R

Below are examples of process station or mill stand designations:

Cold expanded pipe	Electric-resistance-weld	Sendzimir
Cold drawn pipe or tube	Tandem	Temper
Cold drawn wire		

*Forming/rolling solutions have additives to aid in the forming/rolling process. Direct contact water does not.

G CBI **2M-9.**a. Indicate the product(s) formed at this cold forming process. Check (✓) **ALL** that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G Bars				
G Billets (if shape is round, do not provide thickness)				
G Pipes (provide inside diameter and wall thickness)				
G Plates				
G Reinforcing bar				
G Rods				
G Sheets				
G Small structurals				
G Strips				
G Tubes (provide outside diameter or width and wall thickness)				
G Wire				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				

Examples of shape:

Beams:	H, I, wide-flange
Bars:	square, rectangular, hexagonal
Billets:	square, rectangular, round
Small structurals:	angles, channels, tees, zees

G CBI b. Provide the dimensions of the cold formed product which had the highest production in **1997**.

Shape _____ Length _____ Width _____ Thickness _____

G CBI c. What was the annual production for this product in **1997**? _____ tons per year

G CBI d. What percent of overall production in **1997** at this process did this product represent? _____ %

HOW MANY **SEPARATE OPERABLE DIRECT CONTACT WATER SYSTEMS OR ROLLING SOLUTION SYSTEMS** WERE ON SITE AT THIS COLD FORMING PROCESS IN **1997**? _____

COMPLETE A COPY OF QUESTION 2M-10 FOR **EACH** OPERABLE DIRECT CONTACT WATER SYSTEM OR ROLLING SOLUTION SYSTEM. NUMBER EACH COPY OF QUESTION 2M-10 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2M-10 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE ANY DIRECT CONTACT WATER SYSTEMS OR ROLLING SOLUTION SYSTEMS ASSOCIATED WITH THIS COLD FORMING PROCESS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2M-11.** **G**

G CBI **2M-10.**a. Indicate the function(s) of this direct contact water or rolling solution system. Check (✓) **ALL** that apply.

- **G** Roll and/or roll table spray cooling
- **G** Die spray cooling
- **G** Product cooling including runout tables
- **G** Other *(specify)*: _____

G CBI b. What year was this direct contact water or rolling solution system installed? _____

G CBI c. Is the water or solution recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2M-10.j.)

G CBI d. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2M-10.h.)

G CBI e. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes - Treatment shared with other processes

Specify the processes: _____

G CBI f. Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI g. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Emulsified rolling oils
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** None

COMPLETE A COPY OF QUESTION 2M-10 FOR EACH OPERABLE DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM.

G CBI **2M-10.**h. **(cont.)** Provide the design flow of water through the recirculating loop. _____ gpm

G CBI i. Provide the average recirculation rate of water or solution through the system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI j. Provide the average rate at which new water is added to the system and period of water addition (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI k. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

G Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %

G Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %

G Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %

G Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %

G Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %

G Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %

G Other *(specify)*: _____ _____ %

Total: 100 %

G CBI l. Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2M-10 FOR EACH OPERABLE DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM.

G CBI **2M-10.**m. **(cont.)** Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:
  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

HOW MANY **OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS** WERE ON SITE AT THIS COLD FORMING PROCESS DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT. _____

COMPLETE A COPY OF QUESTION 2M-11 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2M-11 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2M-11 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH THIS COLD FORMING PROCESS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2M-12.** **G**

G CBI **2M-11.**a. Provide the designation(s) of all operations associated with this WAPC system. If information for this WAPC system is already provided elsewhere in this survey, answer Question 2M-11.a., check the box to the right, and SKIP to Question 2M-12. **G**

_____

G CBI b. This WAPC system controls emissions from which of the following processes? Check (✓) **ALL** that apply.

- **G** Raw material handling, preparation, and storage
- **G** Process station or mill stand emission
- **G** Building evacuation
- **G** Other *(specify)*: _____

G CBI c. Indicate the devices in this WAPC system. Check (✓) **ALL** that apply.

- **G** Venturi scrubber
- **G** Spray chamber
- **G** Evaporator chamber
- **G** Separator
- **G** Demister
- **G** Packed tower
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI d. Provide the gas or air flow through the system in dry standard cubic feet per minute (dscfm).

_____ dscfm

G CBI e. Is the water recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2M-11.l.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- **G** Yes (continue)
- **G** No (SKIP to Question 2M-11.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No - Dedicated treatment
- **G** Yes - Treatment shared with other processes

Specify the processes: _____

COMPLETE A COPY OF QUESTION 2M-11 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2M-11.**h. **(cont.)** Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner type)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI i. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI j. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI k. Provide the average recirculation rate of water through the WAPC system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI l. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

G CBI m. Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

COMPLETE A COPY OF QUESTION 2M-11 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2M-11.**n. **(cont.)** Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI o. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:
  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2M-12.**a. Are any dry air pollution control (DAPC) systems associated with this cold forming process?

G Yes (continue)
G No (SKIP to Question 2M-13)

G CBI b. Indicate the process associated with DAPC systems in this cold forming process. Check (✓) **ALL** that apply. For each process checked, indicate the type of DAPC system.

Process	Type of DAPC System
G Raw material handling, preparation, and storage associated with this cold forming process	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Process station or mill stand emission	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Building evacuation associated with this cold forming process	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
G Other *(specify)*:	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:

STOP

EXCLUDING WAPC SYSTEMS, DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEMS, AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM COLD FORMING OPERATIONS ARE PRESENT? _____

COMPLETE A COPY QUESTION 2M-13 FOR **EACH** COLD FORMING WASTEWATER SOURCE. NUMBER EACH COPY OF QUESTION 2M-13 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2M-13 IS TWO PAGES LONG.

IF YOUR SITE HAS NO COLD FORMING SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM, A WAPC SYSTEM, OR STORM WATER, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2M-14.** **G**

2M-13. Provide information for the cold forming process and related on-site wastewater generating sources.

G CBI a. Indicate the source of process wastewater **NOT** associated with a direct contact water or rolling solution system, wet air pollution control, or storm water. If there is more than one source at this site, complete a copy of this question for **EACH** cold forming source.

- **G** Equipment cleaning and washdown water
- **G** Roll shops
- **G** Basement sumps
- **G** Other *(specify)*: _____

G CBI b. Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site ID written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and the product code, if known.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

G CBI c. Provide the wastewater flow rate associated with the source checked above.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2M-13 FOR EACH COLD FORMING SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM AND STORM WATER.

G CBI **2M-13.**d. **(cont.)** Indicate the destination of this wastewater stream. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:
  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2M-14.** Provide information on any major process modifications and/or shut downs which have occurred at this cold forming process since 1993.

Shut Down or Modification?	Date	Description

G CBI **2M-15.** Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at this cold forming process.

Shut Down or Modification?	Anticipated Date	Description

G CBI **2M-16.** Indicate **ALL** pollution prevention (waste reduction) or management practices implemented by your site for this cold forming process and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered.

Management Practices	Description of Practice
G Management of spillage and losses from raw material handling operations associated with this cold forming process	
G Management of runoff from raw material or product storage piles associated with this cold forming process	
G Management of fugitive discharges of process wastewaters and materials to this cold forming process noncontact cooling water (NCCW) system	
G Surveillance and corrective action programs for oil discharges from large NCCW flows associated with this cold forming process	
G Collection and treatment and/or disposal of storm water from any areas associated with this cold forming process (specify manufacturing processes or other collection areas in the description)	
G Collection and treatment and/or disposal of landfill leachate from any landfills containing wastes generated from this cold forming process	
G Collection and treatment and/or disposal of contaminated ground waters associated with this cold forming process	
G Practices for oil selection, management, and conservation at this cold forming process	
G Other *(specify)*:	

COMMENTS FOR SECTION 2M: COLD FORMING

Cross reference your comments by question number and indicate the confidential status of your comment by checking (✓) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CBI	Comment
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SECTION 2N. SURFACE CLEANING AND COATING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075

✓ ARE SURFACE CLEANING AND/OR COATING OPERATIONS SUCH AS ALKALINE CLEANING, ACID CLEANING, HOT DIP COATING, OR ELECTROPLATING PERFORMED AT THIS SITE (AND NOT IDENTIFIED IN SECTION 2L)?

G YES (CONTINUE)

G NO (SKIP TO SECTION 2P)

THROUGHOUT THIS SECTION, YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR **ALL** OPERABLE UNITS AND WATER SYSTEMS RELATED TO SURFACE CLEANING AND COATING WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

FOR THIS SECTION AND SECTION 2L, INFORMATION IS COLLECTED FOR PROCESS LINES OR AREAS. THESE LINES OR AREAS CAN BE DEFINED BY SITE PERSONNEL. **IF THE PRIMARY FUNCTION OF THE PROCESS LINE OR AREA IS PICKLING OR DESCALING, THEN COMPLETE SECTION 2L INSTEAD OF THIS SECTION. IF SURFACE CLEANING OR COATING IS PERFORMED IN CONJUNCTION WITH ANNEALING IN THE SAME PROCESS LINE OR AREA, THEN INCLUDE ANNEALING IN THIS SECTION.**

HOW MANY **OPERABLE SURFACE CLEANING AND/OR COATING LINES OR AREAS** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF QUESTION 2N-1 THROUGH 2N-8 FOR **EACH** OPERABLE SURFACE CLEANING AND/OR COATING PROCESS LINE OR AREA. NUMBER EACH COPY OF QUESTIONS 2N-1 THROUGH 2N-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTIONS 2N-1 THROUGH 2N-8 ARE 11 PAGES LONG.

G CBI **2N-1.** Provide the designation by which your site refers to this process line or area (e.g., No. 1 galvanizing line).

_____

G CBI **2N-2.** What was the first year of operation for this process line or area? _____

G CBI **2N-3.**a. What is the total rated capacity of this process line or area in tons of steel cleaned or coated per year?

_____ tons/year (to three significant figures, e.g., 825,000 tons/year)

G CBI b. What is the annual number of operating hours used to determine the total rated capacity?

_____ hours/year

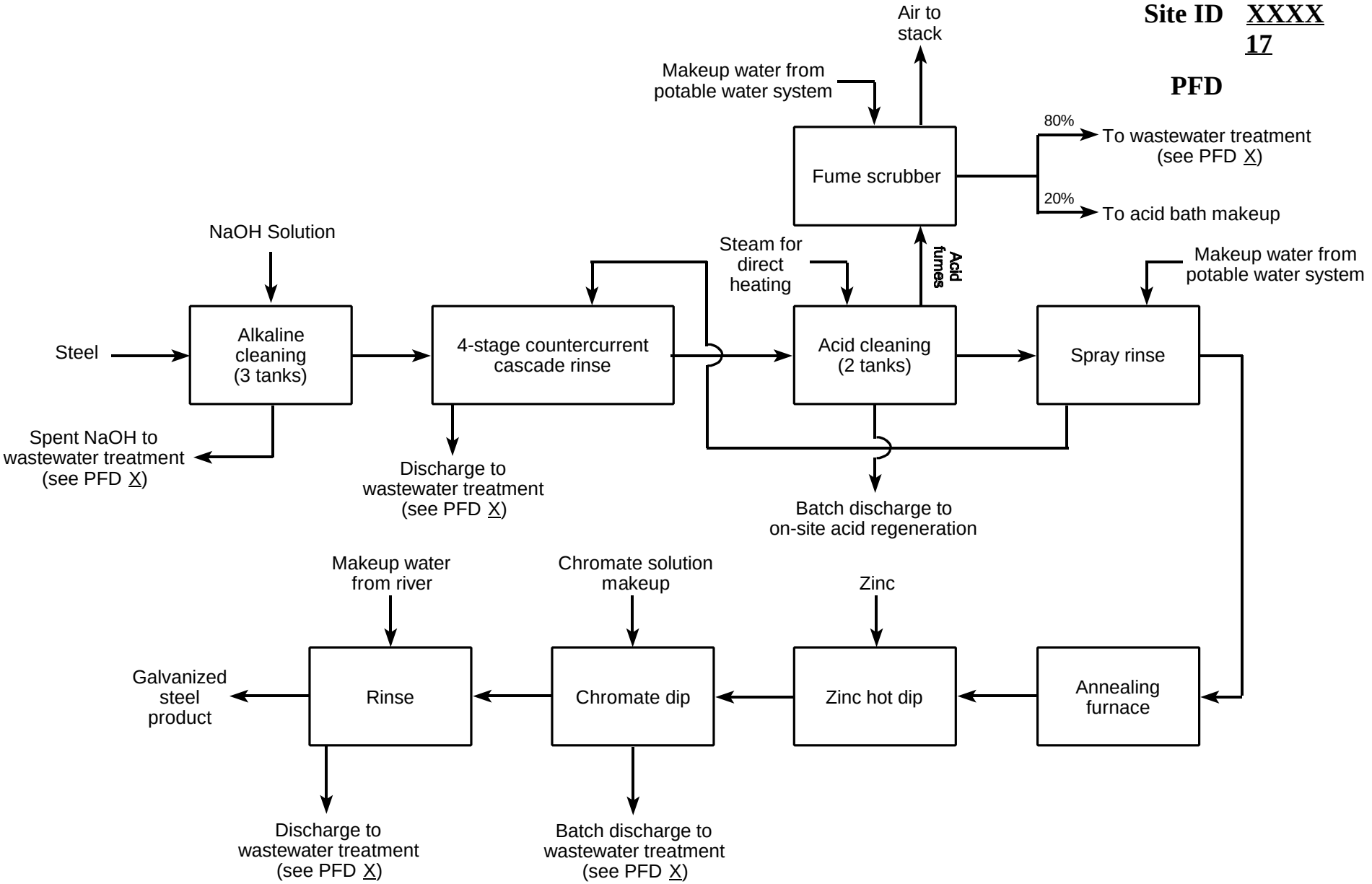
G CBI **2N-4.** Attach a process flow diagram (PFD) that shows the operations and the water use associated with this process. You are **NOT** required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are NOT required on the diagrams.**

Provide the PFD number assigned to the PFD. **If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness.** If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Surface cleaning and/or coating PFD-_____

Process Flow Diagram Checklist

Be sure...	✓
All surface cleaning and/or coating operations on the line or in the area are included. Include those operations which do not generate process wastewater.	**G**
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	**G**
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	**G**
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	**G**
Significant losses of water (e.g., evaporation) are shown.	**G**
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	**G**
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	**G**
The PFD number and your site ID number are written on the diagram.	**G**
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	**G**



Zinc Hot Dip Coating Line
Example Process Flow Diagram

G CBI **2N-5.** Indicate the operations performed at this process line or area. Check (✓) **ALL** that apply. Indicate the number of operable units for each type of process.

Type of Process	Number of Operable Units (e.g., tanks or furnaces) in This Process Line or Area
G Alkaline cleaning	
G Alkaline cleaning rinse	
G Acid cleaning	
G Acid cleaning rinse	
G Annealing	
G Annealing quench or rinse	
G Surface activation (fluxing)	
G Surface activation rinse	
G Electroplating	
G Electroplating rinse	
G Hot coating	
G Coating sealant	
G Coating sealant rinse	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	

G CBI **2N-6.** Provide annual production data for this process line or area for each of the five calendar years 1993 through 1997.

Year	Steel Cleaned or Coated (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI **2N-7.**a. Indicate the product(s) processed on this line or area. Check (✓) **ALL** that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G Bars				
G Billets (if shape is round, do not provide thickness)				
G Pipes (provide inside diameter and wall thickness)				
G Plates				
G Reinforcing bar				
G Rods				
G Sheets				
G Small structurals				
G Strips				
G Tubes (provide outside diameter or width and wall thickness)				
G Wire				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				
G Other *(specify)*:				

Examples of shape:

Beams:	H, I, wide-flange
Bars:	square, rectangular, hexagonal
Billets:	square, rectangular, round
Small structurals:	angles, channels, tees, zees

G CBI b. Provide the dimensions of the product processed on this line or area which had the highest production in **1997**.

Shape _____ Length _____ Width _____ Thickness _____

G CBI c. What was the annual production for this product in **1997**? _____ tons per year

G CBI d. What percent of overall production in **1997** at this process did this product represent? _____ %

HOW MANY **OPERATIONS, INCLUDING ASSOCIATED RINSES,** ARE IN THIS PROCESS LINE OR AREA?
_____

COMPLETE A COPY OF QUESTION 2N-8 FOR **EACH** OPERATION **AND** ITS ASSOCIATED RINSE, IF APPLICABLE. FOR EXAMPLE, TWO ELECTROPLATING BATHS FOLLOWED BY TWO RINSES ONLY NEED ONE RESPONSE TO QUESTION 2N-8. DO NOT RESPOND TO THIS QUESTION FOR ANNEALING FURNACES UNLESS FOLLOWED BY A WATER QUENCH. NUMBER EACH COPY OF QUESTION 2N-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2N-8 IS SIX PAGES LONG.

G CBI **2N-8.**a. Provide the designation by which your site refers to this operation (and its associated rinse, if applicable).

_____

G CBI b. Indicate the type of operation (and its associated rinse, if applicable) performed. Check (✓) **ALL** that apply.

- **G** Alkaline cleaning
- **G** Alkaline cleaning rinse
- **G** Acid cleaning
- **G** Acid cleaning rinse
- **G** Batch annealing
- **G** Continuous annealing
- **G** Annealing rinse or quench
- **G** Surface activation (fluxing)
- **G** Surface activation rinse
- **G** Electroplating
- **G** Electroplating rinse
- **G** Hot dip coating
- **G** Coating sealant
- **G** Coating sealant rinse
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI c. Indicate the previous operation or rinse that the steel entering this operation had left. Check (✓) **ALL** that apply.

- **G** Alkaline cleaning
- **G** Alkaline cleaning rinse
- **G** Acid cleaning
- **G** Acid cleaning rinse
- **G** Batch annealing
- **G** Continuous annealing
- **G** Annealing rinse or quench
- **G** Cold forming
- **G** Hot forming
- **G** Surface activation (fluxing)
- **G** Surface activation rinse
- **G** Electroplating
- **G** Electroplating rinse
- **G** Hot dip coating
- **G** Coating sealant
- **G** Coating sealant rinse
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G NA - Beginning of process line

G CBI d. Indicate the next operation that the steel leaving this operation or rinse would enter. Check (✓) **ALL** that apply.

- **G** Alkaline cleaning
- **G** Acid cleaning
- **G** Cold forming
- **G** Batch annealing
- **G** Continuous annealing
- **G** Surface activation (fluxing)
- **G** Electroplating
- **G** Hot dip coating
- **G** Coating sealant
- **G** Other *(specify)*: _____

G NA - End of process line

COMPLETE A COPY OF QUESTION 2N-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2N-8.**e. **(cont.)** If this operation is hot dip coating, indicate the metal type(s) applied. If this operation is **NOT** a hot dip coating operation, check (✓) the box to the right and SKIP to Question 2N-8.f. **G**

- **G** Zinc
- **G** Aluminum
- **G** Terne (tin/lead)
- **G** Zinc/aluminum alloy
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI f. If this operation is electroplating, indicate the metal type(s) applied. If this operation is **NOT** an electroplating operation, check (✓) the box to the right and SKIP to Question 2N-8.g. **G**

- **G** Tin
- **G** Zinc
- **G** Zinc/nickel alloy
- **G** Chromium
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____

G CBI g. Indicate the chemicals added to the solution of this operation and the solution strength (% by volume). If there are multiple tanks for this operation, provide the range of solution strengths.

- **G** Hydrochloric acid _____ %
- **G** Sulfuric acid _____ %
- **G** Nitric acid _____ %
- **G** Hydrofluoric acid _____ %
- **G** Sodium hydroxide _____ %
- **G** Potassium hydroxide _____ %
- **G** Zinc phosphate _____ %
- **G** Sodium stearate _____ %
- **G** Kolene® _____ %
- **G** Hydride® _____ %
- **G** Chromic acid _____ %
- **G** Sodium dichromate _____ %
- **G** Urea _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %
- **G** None added

COMPLETE A COPY OF QUESTION 2N-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2N-8.**h. **(cont.)** Indicate the method for heating the solution from this operation (and its associated rinse, if applicable).

Heating Method	Solution	Rinse
Direct steam injection	**G**	**G**
Indirect heating with heat exchanger (noncontact)	**G**	**G**
Other *(specify)*:	**G**	**G**
Other *(specify)*:	**G**	**G**
Not heated (if both are checked, SKIP to Question 2N-8.j)	**G**	**G**

G CBI i. Provide the operating temperature of the solution from this operation (and its associated rinse, if applicable). For multiple tanks operating in series at different temperatures, provide the range of temperatures.

Solution: _____ **G**°F **G**°C **G** Not applicable
Rinse: _____ **G**°F **G**°C **G** Not applicable

G CBI j. Indicate the method for agitating or stirring the solution from this operation (and its associated rinse, if applicable).

Agitating or Stirring Method	Solution	Rinse
Air sparging	**G**	**G**
Mechanical agitation	**G**	**G**
Other *(specify)*:	**G**	**G**
Other *(specify)*:	**G**	**G**
Not agitated or stirred	**G**	**G**

G CBI k. Is a fume scrubber or wet air pollution control system associated with the solution from this operation (and its associated rinse, if applicable).

Associated Fume Scrubber or Wet Air Pollution Control	Solution	Rinse
Yes	**G**	**G**
No	**G**	**G**

COMPLETE A COPY OF QUESTION 2N-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2N-8.**l. **(cont.)** Indicate **ALL** sources of water addition for the **SOLUTION** from this operation. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing processes(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

G CBI m. Provide the blowdown or discharge rate of the **SOLUTION** from this operation and period of discharge.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI n. Indicate the method(s) by which your site disposes of the **SOLUTION** from this operation. Check (✓) **ALL** that apply.

- **G** On-site regeneration and reuse
- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

COMPLETE A COPY OF QUESTION 2N-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2N-8.o. (cont.)** Indicate **ALL** sources of water addition for the **ASSOCIATED RINSE**. Provide the percentage of water contributed by each source. The percentages should add to 100 percent. If there is **NOT** an associated rinse, check the box to the right and SKIP to Question 2N-9. **G**

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

G CBI p. Provide the blowdown or discharge rate from the **ASSOCIATED RINSE** and period of discharge.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI q. Indicate the method(s) by which your site disposes of the **ASSOCIATED RINSE**. Check (✓) **ALL** that apply.

- **G** On-site regeneration and reuse
- **G** Discharge to another process or rinse *(specify process or rinse designation)*: _____
- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

COMPLETE A COPY OF QUESTION 2N-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI **2N-8.**r. **(cont.)** Indicate whether the **ASSOCIATED RINSE** is operated as a spray or immersion.

- **G** Spray
- **G** Immersion
- **G** Both

G CBI s. Indicate the flow pattern of the **ASSOCIATED RINSE**.

- **G** Recirculation with blowdown
- **G** Multiple-stage countercurrent cascade
  Indicate number of stages: _____
- **G** Stagnant with batch discharge
- **G** Once-through with continuous flow
- **G** Once-through with intermittent flow
- **G** Other *(specify)*: _____

HOW MANY **OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS** WERE ON SITE AT THIS SURFACE CLEANING OR COATING OPERATION DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT. _____

COMPLETE A COPY OF QUESTION 2N-9 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2N-9 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2N-9 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH ANY PROCESS LINES OR AREAS, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2N-10.** **G**

G CBI **2N-9.**a. Provide the designation(s) of the operation(s), process line(s), and all other operations associated with this WAPC system. Designations should correspond with response(s) to Questions 2N-1 (process line or area) or 2N-8.a. (operations and associated rinses). If information for this WAPC system is already provided elsewhere in this survey, answer Question 2N-9.a., check the box to the right, and SKIP to Question 2N-10. **G**

_____

_____

G CBI b. This WAPC system controls emissions from which of the following? Check (✓) **ALL** that apply.

G Process baths
G Building evacuation
G Other *(specify)*: _____

G CBI c. Indicate the devices in this WAPC system. Check (✓) **ALL** that apply.

G Venturi scrubber
G Spray chamber
G Evaporation chamber
G Separator
G Demister
G Packed tower
G Other *(specify)*: _____
G Other *(specify)*: _____

G CBI d. Provide the gas or air flow through the system in dry standard cubic feet per minute (dscfm).

_____ dscfm

G CBI e. Is the water recirculated or applied once-through?

G Recirculated (continue)
G Once-through (SKIP to Question 2N-9.l.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

G Yes (continue)
G No (SKIP to Question 2N-9.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

G No - Dedicated treatment
G Yes - Treatment shared with other processes

Specify the processes: _____

COMPLETE A COPY OF QUESTION 2N-9 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2N-9.**h. **(cont.)** Check (✓) **ALL** treatment units and/or treatment processes which are included in the recirculating loop.

- **G** Clarifiers
- **G** Classifiers
- **G** Cooling towers
- **G** Earthen Lagoons
  - **G** Lined *(specify liner types)*:
    - **G** Clay
    - **G** Synthetic
    - **G** Other *(specify)*: _____
  - **G** Unlined
- **G** Oil skimmers
- **G** Scale pits
- **G** Sludge dewatering units (e.g., vacuum filter, pressure filtration, etc.)
- **G** Water filters (e.g., sand, multimedia, etc.)
- **G** Water softeners
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI i. Indicate chemical additions to the water recirculation system. Check (✓) **ALL** that apply.

- **G** Acid
- **G** Caustic (sodium hydroxide)
- **G** Corrosion inhibitor
- **G** Lime
- **G** Polymer
- **G** Scale inhibitor
- **G** Surfactant
- **G** Other *(specify)*: _____
- **G** Other *(specify)*: _____
- **G** None

G CBI j. Provide the design flow of water through the recirculating loop. _____ gpm

G CBI k. Provide the average recirculation rate of water through the WAPC system and period of operation.

_____ gpm _____ hours per day _____ days per year

G CBI l. Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).

_____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2N-9 FOR EACH OPERABLE WAPC SYSTEM.

G CBI **2N-9.**m. **(cont.)** Indicate **ALL** sources for water addition. Provide the percentage of water contributed by each source. The percentages should add to 100 percent.

- **G** Plant service water (city, well, or surface water which has not been used elsewhere on site) _____ %
- **G** Noncontact cooling water *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Untreated process wastewater *(specify manufacturing process(es))*: _____ _____ %
- **G** Treated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Untreated storm water *(specify manufacturing process(es) or other collection area(s))*: _____ _____ %
- **G** Other *(specify)*: _____ _____ %

Total: 100 %

G CBI n. Provide the average discharge rate from the system and period of discharge (for recirculating systems, provide the blowdown rate).

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

G CBI o. Indicate the destination of wastewater discharge or blowdown. Check (✓) **ALL** that apply.

- **G** Process solution makeup water *(specify process)*: _____
- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2N-10.**a. Are any dry air pollution control (DAPC) systems associated with the cleaning or coating operations?

G Yes (continue)

G No (SKIP to Question 2N-11)

G CBI b. Provide the surface cleaning or coating designations associated with any DAPC system, one per line. Designation(s) should correspond with response(s) to Question 2N-1. For each process listed, indicate the type of DAPC system.

Process Line or Area Designations	**Type of DAPC System**
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other *(specify)*:

EXCLUDING WAPC SYSTEMS, PROCESS DISCHARGES, AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM CLEANING AND COATING OPERATIONS ARE PRESENT? _____

COMPLETE A COPY OF QUESTION 2N-11 FOR **EACH** SURFACE CLEANING OR COATING WASTEWATER SOURCE. NUMBER EACH COPY OF QUESTION 2N-11 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2N-11 IS TWO PAGES LONG.

IF YOUR SITE HAS NO SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, PROCESS DISCHARGE, OR STORM WATER, **CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2N-12.** **G**

2N-11. Provide information for the cleaning or coating and related on-site wastewater generating sources.

G CBI a. Indicate the source of process wastewater **NOT** associated with wet air pollution control, process discharges, or storm water. If there is more than one source at this site, complete a copy of this question for **EACH** cleaning or coating source.

- **G** Raw material handling, preparation, and storage
- **G** Tank clean outs
- **G** Equipment cleaning and washdown water
- **G** Other *(specify)*: _____

G CBI b. Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site ID written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and product code, if known.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

G CBI c. Provide the wastewater flow rate and period of discharge associated with the source checked above.

_____ gpm _____ hours per day _____ days per year

OR: _____ gallons per day _____ days per year

COMPLETE A COPY OF QUESTION 2N-11 FOR EACH SURFACE CLEANING AND COATING SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, PROCESS DISCHARGES, OR STORM WATER.

G CBI **2N-11.**d. **(cont.)** Indicate the destination of this wastewater stream. Check (✓) **ALL** that apply.

- **G** Discharge to treatment *(specify treatment system)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to surface water *(specify outfall number)*: _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to POTW *(specify designation for permit monitoring location)*:
  _____
- **G** Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW *(specify designation for permit monitoring location if applicable)*: _____
- **G** Zero discharge or alternative disposal methods:
  - **G** Deep-well injection
  - **G** Evaporation *(specify method)*: _____
  - **G** Percolation pond
  - **G** Spray irrigation
  - **G** Contract hauled
    (specify disposal rate, including transportation): $ _____ per gallon
    (specify destination/disposal method): _____
  - **G** Incineration
  - **G** Other *(specify)*: _____

G CBI **2N-12.** Provide information on any major process modifications and/or shut downs which have occurred at the surface cleaning and/or coating operations at this site since 1993. Provide the process line or area designations in the descriptions. Designation(s) should correspond with response(s) to Question 2N-1.

Shut Down or Modification?	Date	Description

G CBI **2N-13.** Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the cleaning and/or coating operations at this site. Provide the process line or area designations in the descriptions. Designation(s) should correspond with response(s) to Question 2N-1.

Shut Down or Modification?	Anticipated Date	Description

G CBI **2N-14.** Indicate **ALL** pollution prevention (waste reduction) or management practices implemented by your site for the cleaning and/or coating operations at this site and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide the process line or area designations in the descriptions. Designation(s) should correspond with response(s) to Question 2N-1.

Management Practices	Description of Practice
G Management of spillage and losses from surface cleaning and coating operations	
G Recovery and/or reuse of surface cleaning or coating solutions	
G Management of runoff from raw material storage areas associated with surface cleaning and coating operations	
G Use of at-the-source purification systems to extend bath life	
G Reuse of WAPC wastewater for chemical bath makeup	
G Countercurrent cascade rinsing	
G Reuse of rinse water for chemical bath makeup	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	
G Other *(specify)*:	

COMMENTS FOR SECTION 2N: SURFACE CLEANING AND COATING

Cross reference your comments by question number and indicate the confidential status of your comment by checking (✓) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CBI	Comment
	G	
	G	
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